

11 Glossary of Terms, Abbreviations, and Acronyms

Accretion: the seaward growth of land; opposite of shoreline erosion or retreat.

Adaptive Management: a systematic management paradigm that assumes natural resource management policies and actions are not static but are adjusted based on the combination of new scientific and socio-economic information in order to improve management by learning from the ecosystems being affected. A collaborative adaptive management approach incorporates and links knowledge and credible science with the experience and values of stakeholders and managers for more effective management decision-making.

Anaerobic: a situation where molecular oxygen is absent (or effectively so) from the environment.

Anoxic: without oxygen.

Anthropogenic: caused or derived by human activity.

Anadromous: fish species that spend their lives in the ocean, but return to freshwater streams, rivers, and ponds to spawn.

Avifauna: all birds in a specific region.

Biota: collectively all of the animal and plant life in an area.

Brackish: water that has salinity between that of freshwater (0-5 ppt) and that of saltwater (35 ppt).

Catadromous: fish species that spend their lives in freshwater streams, rivers, and ponds, but return to the ocean to spawn.

Coliform bacteria: non-pathogenic (not capable of causing disease) microbes found in fecal matter that indicate the presence of water pollution and the presence of pathogenic bacteria.

Culvert: round, elliptical, or rectangular structures that are fully enclosed (contain a bottom) designed primarily for channeling water beneath a road, railroad, or highway.

Dike: a bank (usually earthen) constructed to control or confine water.

Ebb tide: a falling tide – the phase of the tide between high water and the succeeding low water.

Estuary: a semi-enclosed coastal body of water with one or more rivers or streams flowing into it, and with a free connection to the open sea.

Ferrous: of, containing, or derived from iron.

Flood Tide: a rising tide – the phase of the tide between low water and the succeeding high water.

Flora: a list of all plant species that occur in an area.

Fry: newly hatched or born fish.

High Marsh: Areas of tidal marshes that are flooded on higher than average high tides and are typically dominated by Salt Meadow Hay (*Spartina patens*).

Hydrography: The study of the water cycle and its interaction with the physiographic landscape.

Hydrology: the science dealing with the properties, distribution, and circulation of water.

Hydrologic Model: a conceptual or physically-based procedure for numerically simulating a process or processes which occur in a watershed.

Hydrodynamic Modeling: The modeling of the flow field, circulation, and water surface elevations within a water body driven by external conditions, including tides, winds, inflows, outflows.

One-Dimensional Hydrodynamic Modeling: a model where output is water levels and discharges in one dimension i.e. along the direction of flow in a river.

Two-Dimensional Hydrodynamic Modeling: a model where output is water levels, discharges and velocities in two dimensions i.e. along and perpendicular to the flow in a river.

Low Marsh: Areas of marsh that are flooded by all high tides and are dominated by Cordgrass (*Spartina alterniflora*).

Mean High Water: A tidal datum. The average of all the high water heights observed over the National Tidal Datum Epoch.

Mean Higher High Water: A tidal datum. The average of the higher high water height of each tidal day observed over the National Tidal Datum Epoch.

Mean Low Water: A tidal datum. The average of all the low water heights observed over the National Tidal Datum Epoch.

Mean Lower Low Water: A tidal datum. The average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch.

Mean sea level: A tidal datum. The arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; e.g., monthly mean sea level and yearly mean sea level.

National Geodetic Vertical Datum of 1929: A fixed reference adopted as a standard geodetic datum for elevations determined by leveling. The datum was derived for surveys from a general adjustment of the first-order leveling nets of both the United States and Canada. In the adjustment, mean sea level was held fixed as observed at 21 tide stations in the United States and 5 in Canada. The year indicates the time of the general adjustment. The geodetic datum is fixed and does not take into account the changing stands of sea level.

National Tidal Datum Epoch— The specific 19-year period adopted by the National Ocean Service as the official time segment over which tide observations are taken and reduced to obtain mean values (e.g., mean lower low water, etc.) for tidal datums. It is necessary for standardization because of periodic and apparent secular trends in sea level. The present National Tidal Datum Epoch is 1983 through 2001. It is reviewed annually for possible revision and must be actively considered for revision every 25 years.

Neap Tide: Smaller than normal tides that occur approximately twice per month at the first and third quarter moon phase when the sun and moon are at right angles to the earth and the tidal forces counteract each other.

North American Vertical Datum of 1988: A fixed reference for elevations determined by geodetic leveling. The datum was derived from a general adjustment of the first-order terrestrial leveling nets of the United States, Canada, and Mexico. In the adjustment, only the height of the primary tidal bench mark, referenced to the International Great Lakes Datum of 1985 (IGLD 1985) local mean sea level height value, at Father Point, Rimouski, Quebec, Canada was held fixed, thus providing minimum constraint.

Nekton: all organisms in the ocean that swim freely. There are three types, including: chordates, mollusks, and arthropods.

Oxidize: chemical process of combining oxygen with some other substance or a chemical change in which an atom loses electrons; opposite of reduction.

Palustrine: pertaining to all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 5 ppt.

Peat: soil type that is an accumulation of decaying plant matter and is water-logged and low in oxygen.

Restoration: re-establishment of previously existing wetland or other aquatic resource character and function(s) at a site where they have ceased to exist, or exist only in a substantially degraded state.

Salt water intrusion: the invasion of saltwater into freshwater areas.

Sedimentation: the deposition of transported soil particles due to a reduction in the rate of flow of water carrying these particles.

Semi-Diurnal Tides: Having a period or cycle of approximately one-half of a tidal day. The predominant type of tide throughout the world is semidiurnal, with two high waters and two low waters each tidal day. The tidal current is said to be semidiurnal when there are two flood and two ebb periods each day.

Sluice gate: a gate that can be opened or closed to control the flow of water.

Spawn: the act of reproduction of fishes.

Spring Tide: Larger than normal tides that occur approximately twice per month at new and full moon when the sun and moon are aligned and the tidal forces are reinforced.

Storm surge: the temporary rise in local sea level caused by a storm.

Submerged aquatic vegetation (SAV): aquatic vegetation that cannot tolerate dry conditions and because of this, live with their leaves at or below the water surface.

Subsidence: The sinking of the marsh surface, through compaction or degradation of marsh peat; often occurs when salt marshes are deprived of tidal flow.

Tidal flushing: the action of saltwater entering an estuary during high tides. It renews the salinity and nutrients to the estuary and removes artificially introduced toxins in the environment.

100-year flooding event: the flood elevation that has a predicted statistical frequency of occurring once every 100 years. This flood elevation has a 1% chance of happening in any year.

Acronyms and Abbreviations

APCC: Association to Preserve Cape Cod

CCC: Cape Cod Commission

CCMCP: Cape Cod Mosquito Control Project

CRP: Conceptual Restoration Plan

CYCC: Chequessett Yacht and Country Club

CZM: Coastal Zone Management

DFW: Massachusetts Division of Fisheries and Wildlife

HRTC: Herring River Technical Committee

IPANE: Invasive Plants Atlas of New England

MEPA: Massachusetts Environmental Policy Act

MOU: Memorandum of Understanding

MHW: Mean High Water

MHHW: Mean Higher High Water

MLW: Mean Low Water

MLLW: Mean Lower Low Water

MSL: Mean sea level

NAVD88: North American Vertical Datum

NEPA: National Environmental Policy Act

NGVD29: National Geodetic Vertical Datum

NHESP: Massachusetts Natural Heritage and Endangered Species Program

NPS: National Park Service

SAV: Submerged aquatic vegetation

WRP: Wetlands Restoration Program